

CLAIM AMENDMENTS

Please amend the claims as follows:

1. (currently amended) A method of manufacturing an optical identification element; the method comprising:  
  
    providing a substrate;  
  
    winding at least two or more wraps of the substrate around a device to form ~~provide~~ at least one grating writing section;  
  
    writing in a single exposure at least one grating into the at least two or more wraps of the substrate disposed in the at least one grating writing section; and  
  
    splitting the substrate disposed in the at least one grating writing section to form a multiplicity ~~plurality~~ of optical identification elements.
2. (Original) The method of claim 1, wherein the substrate is a fiber.
3. (Original) The method of claim 1, wherein the substrate is an optical fiber having a core and a cladding.
4. (Original) The method of claim 1, wherein the substrate is photosensitive.
5. (Original) The method of claim 2 further including stripping a buffer from the fiber.

6. (Original) The method of claim 1, wherein the device maintains the grating writing section flat.

7. (Original) The method of claim 1, wherein the device provides a plurality of flat grating writing sections of wound substrate.

8. (Currently amended) The method of claim 1 further including bonding the ~~wrapped~~ substrate together.

9. (Currently amended) The method of claim 1, further including bonding the substrate in the at least one grating writing section ~~wrapped-substrate~~ to a sheet material.

10. (Currently amended) The method of claim 9 8 wherein the step of splitting of the substrate in the grating writing section further includes cutting the substrate bonded to the sheet material without cutting through the sheet material.

11. (Original) The method of claim 10 further including separating the optical identification elements from the sheet material.

12. (Original) The method of claim 11 wherein the separating the optical identification elements and the sheet material is performing by dissolving adhesive bonding them together.

13. (Original) The method of claim 1, wherein the device is polygonal shaped to provide a plurality of flat grating writing sections of wound substrate.

14. (Original) The method of claim 1, wherein the grating comprises a plurality of co-located gratings.

15. (Original) The method of claim 13, wherein gratings are written into a plurality of grating writing sections of wound substrate.

16. (new) The method of claim 1, wherein the method includes the step of rotating the device after writing each of the at least one grating writing section.

17. (new) The method of claim 1, wherein the step of writing includes writing in the single exposure a grating in an entire grating writing section.

18. (new) The method of claim 1, wherein the step of writing includes writing in the single exposure a grating in a part of the at least one grating writing section.

19. (new) The method of claim 1, wherein the step of winding includes winding the substrate so that each wrap of fiber is adjacent to and touches each adjacent wrap to form a single layer of fiber ribbon.

20. (new) A method of manufacturing an optical identification element; the method comprising:

providing a substrate;

winding the substrate around a device to provide at least one grating writing section;

writing at least one grating into the substrate disposed in the grating writing section;

bonding the substrate in the at least one grating writing section to a sheet material; and

splitting the substrate disposed in the grating writing section to form a plurality of optical identification elements by cutting the substrate bonded to the sheet material without cutting through the sheet material.

21. (new) The method of claim 20 further including separating the optical identification elements from the sheet material.

22. (new) The method of claim 21 wherein the separating the optical identification elements and the sheet material is performing by dissolving an adhesive bonding them together.